

**County of San Diego
PRIORITY DEVELOPMENT PROJECT (PDP) SWQMP**

**Roetzheim Parcel Map
PDS2017-TPM-21255**

**3390 JAMUL HIGHLANDS ROAD
Jamul, CA 91935**

**ASSESSOR'S PARCEL NUMBER(S):
596-152-04-00**

ENGINEER OF WORK:



Lawrence E. Cole, RCE 36292 exp, 6/30/20

PREPARED FOR:

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PDP SWQMP PREPARED BY:

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**DATE OF SWQMP:
February 28, 2019**

**PLANS PREPARED BY:
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SWQMP APPROVED BY:

APPROVAL DATE:



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Table of Contents

Table of Contents	iv
Attachments.....	v
Acronyms.....	v
PDP SWQMP Preparer's Certification Page.....	vi
Submittal Record	viii
Project Vicinity Map	ix
Step 1: Project type determination (Standard or Priority Development Project).....	1
Step 1.1: Storm Water Quality Management Plan requirements.....	3
Step 1.2: Exemption to PDP definitions	3
Step 2: Construction Storm Water BMP Checklist.....	4
Step 3: County of San Diego PDP SWQMP Site Information Checklist.....	7
Step 3.1: Description of Existing Site Condition	7
Step 3.2: Description of Existing Site Drainage Patterns	8
Step 3.3: Description of Proposed Site Development	9
Step 3.4: Description of Proposed Site Drainage Patterns.....	10
Step 3.5: Potential Pollutant Source Areas	11
Step 3.6: Identification and Narrative of Receiving Water and Pollutants of Concern	12
Step 3.7: Hydromodification Management Requirements	13
Step 3.7.1: Critical Coarse Sediment Yield Areas*	14
Step 3.7.2: Flow Control for Post-Project Runoff*	15
Step 3.8: Other Site Requirements and Constraints	16
Step 4: Source Control BMP Checklist	17
Step 5: Site Design BMP Checklist.....	19
Step 6: PDP Structural BMPs	21
Step 6.1: Description of structural BMP strategy.....	22
Step 6.2: Structural BMP Checklist	24
Step 6.3: Offsite Alternative Compliance Participation Form.....	25

Attachments

- Attachment 1: Backup for PDP Pollutant Control BMPs
 - Attachment 1a: Storm Water Pollutant Control Worksheet Calculations
 - Attachment 1b: DMA Exhibit
 - Attachment 1c: Individual Structural BMP DMA Mapbook
- Attachment 2: Backup for PDP Hydromodification Control Measures
 - Attachment 2a: Flow Control Facility Design
 - Attachment 2b: Hydromodification Management Exhibit
 - Attachment 2c: Management of Critical Coarse Sediment Yield Areas
 - Attachment 2d: Geomorphic Assessment of Receiving Channels (optional)
 - Attachment 2e: Vector Control Plan (if applicable)
- Attachment 3: Structural BMP Maintenance Plan
 - Attachment 3a: Structural BMP Maintenance Thresholds and Actions
 - Attachment 3b: Draft Maintenance Agreements / Notifications (when applicable)
- Attachment 4: County of San Diego PDP Structural BMP Verification for DPW Permitted Land Development Projects
- Attachment 5: Copy of Plan Sheets Showing Permanent Storm Water BMPs
- Attachment 6: Copy of Project's Drainage Report
- Attachment 7: Copy of Project's Geotechnical and Groundwater Investigation Report

Acronyms

ACP	Alternative Compliance Project
APN	Assessor's Parcel Number
BMP	Best Management Practice
BMP DM	Best Management Practice Design Manual
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NRCS	Natural Resources Conservation Service
PDCI	Private Development Construction Inspection Section
PDP	Priority Development Project
PDS	Planning and Development Services
PE	Professional Engineer
RPO	Resource Protection Ordinance
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWQMP	Storm Water Quality Management Plan
WMAA	Watershed Management Area Analysis
WPO	Watershed Protection Ordinance
WQIP	Water Quality Improvement Plan

PDP SWQMP Preparer's Certification Page**Project Name: Roetzheim Parcel Map****Permit Application Number: PDS2017-TPM-21255****PREPARER'S CERTIFICATION**

I hereby declare that I am the Engineer in Responsible Charge of design of storm water best management practices (BMPs) for this project, and that I have exercised responsible charge over the design of the BMPs as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the PDP requirements of the County of San Diego BMP Design Manual, which is a design manual for compliance with local County of San Diego Watershed Protection Ordinance (Sections 67.801 et seq.) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100) requirements for storm water management.

I have read and understand that the County of San Diego has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the BMP Design Manual. I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP SWQMP by County staff is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.

Engineer of Work's Signature, PE Number & Expiration Date

Lawrence E. Cole - RCE 36292 exp. 06/30/20

Print Name

Landmark Engineering Corporation

Company

February 28, 2019

Date

Engineer's Seal:



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Submittal Record

Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP SWQMP is re-submitted, provide the date and status of the project. In column 4 summarize the changes that have been made or indicate if response to plancheck comments is included. When applicable, insert response to plancheck comments behind this page.

Preliminary Design / Planning / CEQA

Submittal Number	Date	Summary of Changes
1	06/28/18	Initial Submittal
2	10/04/18	1 st Plancheck
3	01/23/19	2 nd Plancheck
4	02/28/19	3 rd Plancheck

Final Design

Submittal Number	Date	Summary of Changes
1		Initial Submittal
2		
3		
4		

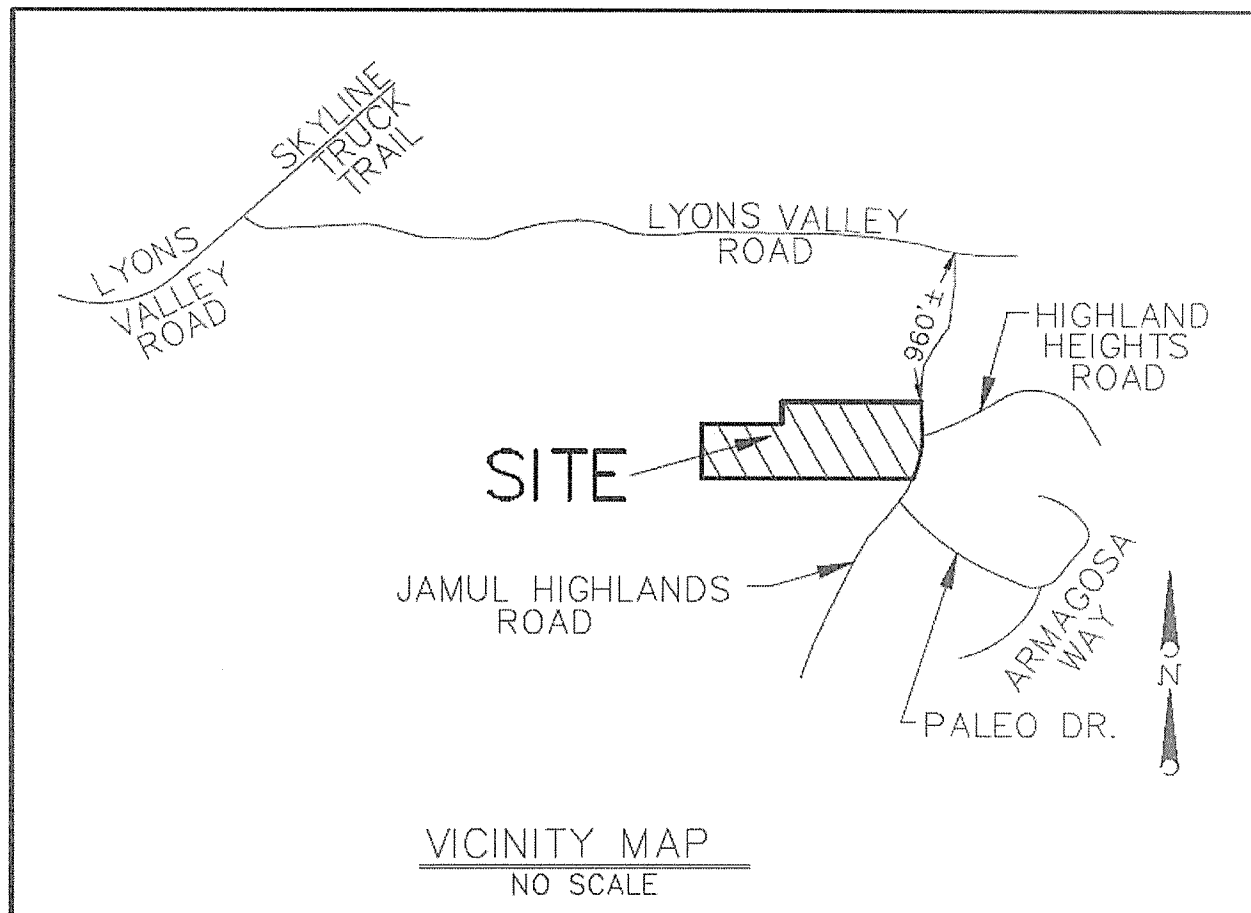
Plan Changes

Submittal Number	Date	Summary of Changes
1		Initial Submittal
2		
3		
4		

Project Vicinity Map

Project Name: Roetzheim Parcel Map

Record ID: PDS2017-TPM-21255



Step 1: Project type determination (Standard or Priority Development Project)

Is the project part of another Priority Development Project (PDP)?		(<input checked="" type="checkbox"/>) Yes <input type="checkbox"/> No	
If so, a PDP SWQMP is required. Go to Step 2.			
The project is (select one): <input type="checkbox"/> New Development <input checked="" type="checkbox"/> Redevelopment ¹			
The total proposed newly created or replaced impervious area is:		19350 ft ²	
The total existing (pre-project) impervious area is:		44118 ft ²	
The total area disturbed by the project is:		24635 ft ²	
If the total area disturbed by the project is 1 acre (43,560 sq. ft.) or more OR the project is part of a larger common plan of development disturbing 1 acre or more, a Waste Discharger Identification (WDID) number must be obtained from the State Water Resources Control Board. WDID: _____			
Is the project in any of the following categories, (a) through (f)? ²			
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(a)	New development projects that create 10,000 square feet or more of impervious surfaces ³ (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(b)	Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(c)	New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (Standard Industrial Classification (SIC) code 5812). (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater. (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce. (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

¹ Redevelopment is defined as: The creation and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include routine maintenance activities, such as trenching and resurfacing associated with utility work; pavement grinding; resurfacing existing roadways; new sidewalks construction; pedestrian ramps; or bike lanes on existing roads; and routine replacement of damaged pavement, such as pothole repair.

² Applicants should note that any development project that will create and/or replace 10,000 square feet or more of impervious surface (collectively over the entire project site) is considered a new development.

³ For solar energy farm projects, the area of the solar panels does not count toward the total impervious area of the site.

Project type determination (continued)

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(d)	<p>New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).</p> <p><i>Note: ESAs are areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Board and San Diego Water Board; State Water Quality Protected Areas; water bodies designated with the RARE beneficial use by the State Water Board and San Diego Water Board; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees. See BMP Design Manual Section 1.4.2 for additional guidance.</i></p>
Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(e)	<p>New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses:</p> <ul style="list-style-type: none"> (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following SIC codes: 5013, 5014, 5541, 7532-7534, or 7536-7539. (ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.
Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	(f)	<p>New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction.</p> <p><i>Note: See BMP Design Manual Section 1.4.2 for additional guidance.</i></p>

Does the project meet the definition of one or more of the Priority Development Project categories (a) through (f) listed above?

☐ No – the project is not a Priority Development Project (Standard Project).

☒ Yes – the project is a Priority Development Project (PDP).

Further guidance may be found in Chapter 1 and Table 1-2 of the BMP Design Manual.

The following is for **redevelopment PDPs only**:

The area of existing (pre-project) impervious area at the project site is: ft² (A)

The total proposed newly created or replaced impervious area is ft² (B)

Percent impervious surface created or replaced (B/A)*100: %

The percent impervious surface created or replaced is (select one based on the above calculation):

☐ less than or equal to fifty percent (50%) – **only newly created or replaced impervious areas are considered a PDP and subject to stormwater requirements**

OR

☐ greater than fifty percent (50%) – **the entire project site is considered a PDP and subject to stormwater requirements**

Step 1.1: Storm Water Quality Management Plan requirements

Step	Answer	Progression
Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions?	<input type="checkbox"/> Standard Project	Standard Project requirements apply, including Standard Project SWQMP. Complete Standard Project SWQMP.
To answer this item, complete Step 1 Project Type Determination Checklist on Pages 1 and 2, and see PDP exemption information below. For further guidance, see Section 1.4 of the BMP Design Manual <i>in its entirety</i> .	<input checked="" type="checkbox"/> PDP	Standard and PDP requirements apply, including PDP SWQMP. Complete PDP SWQMP.
	<input type="checkbox"/> PDP with ACP	If participating in offsite alternative compliance, complete Step 6.3 and an ACP SWQMP.
	<input type="checkbox"/> PDP Exemption	Go to Step 1.2 below.

Step 1.2: Exemption to PDP definitions

<p>Is the project exempt from PDP definitions based on either of the following:</p> <p><input type="checkbox"/> Projects that are only new or retrofit paved sidewalks, bicycle lanes, or trails that meet the following criteria:</p> <ul style="list-style-type: none"> (i) Designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas; OR (ii) Designed and constructed to be hydraulically disconnected from paved streets or roads [i.e., runoff from the new improvement does not drain directly onto paved streets or roads]; OR (iii) Designed and constructed with permeable pavements or surfaces in accordance with County of San Diego Guidance on Green Infrastructure; 	<p>If so:</p> <p><u>Standard Project</u> requirements apply, AND <u>any additional requirements specific to the type of project.</u> <u>County concurrence</u> with the exemption is required. <i>Provide discussion and list any additional requirements below in this form.</i></p> <p>Complete Standard Project SWQMP</p>
<p><input type="checkbox"/> Projects that are only retrofitting or redeveloping existing paved alleys, streets or roads that are designed and constructed in accordance with the County of San Diego Guidance on Green Infrastructure.</p>	<p>Complete Green Streets PDP Exempt SWQMP.</p>
<p><i>Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:</i></p>	

Step 2: Construction Storm Water BMP Checklist

Minimum Required Standard Construction Storm Water BMPs		
<p>If you answer "Yes" to any of the questions below, your project is subject to Table 1 on the following page (Minimum Required Standard Construction Stormwater BMPs). As noted in Table 1, please select at least the minimum number of required BMPs, or as many as are feasible for your project. If no BMP is selected, an explanation must be given in the box provided. The following questions are intended to aid in determining construction BMP requirements for your project.</p> <p>Note: All selected BMPs below must be included on the BMP plan incorporated into the construction plan sets.</p>		
1. Will there be soil disturbing activities that will result in exposed soil areas? (This includes minor grading and trenching.) Reference Table 1 Items A, B, D, and E Note: Soil disturbances NOT considered significant include, but are not limited to, change in use, mechanical/electrical/plumbing activities, signs, temporary trailers, interior remodeling, and minor tenant improvement.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
2. Will there be asphalt paving, including patching? Reference Table 1 Items D and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
3. Will there be slurries from mortar mixing, coring, or concrete saw cutting? Reference Table 1 Items D and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
4. Will there be solid wastes from concrete demolition and removal, wall construction, or form work? Reference Table 1 Items D and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
5. Will there be stockpiling (soil, compost, asphalt, concrete, solid waste) for over 24 hours? Reference Table 1 Items D and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
6. Will there be dewatering operations? Reference Table 1 Items C and D	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7. Will there be temporary on-site storage of construction materials, including mortar mix, raw landscaping and soil stabilization materials, treated lumber, rebar, and plated metal fencing materials? Reference Table 1 Items E and F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
8. Will trash or solid waste product be generated from this project? Reference Table 1 Item F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
9. Will construction equipment be stored on site (e.g.: fuels, oils, trucks, etc.)? Reference Table 1 Item F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
10. Will Portable Sanitary Services ("Porta-potty") be used on the site? Reference Table 1 Item F	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Table 1. Construction Storm Water BMP Checklist

Minimum Required Best Management Practices (BMPs)	CALTRANS SW Handbook ⁴ Detail or County Std. Detail	✓ BMP Selected	Reference sheet No.'s where each selected BMP is shown on the plans. If no BMP is selected, an explanation must be provided.
A. Select Erosion Control Method for Disturbed Slopes (choose at least one for the appropriate season)			
Vegetation Stabilization Planting ⁵ (Summer)	SS-2, SS-4	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Hydraulic Stabilization Hydroseeding ² (Summer)	SS-4	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Bonded Fiber Matrix or Stabilized Fiber Matrix ⁶ (Winter)	SS-3	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Physical Stabilization Erosion Control Blanket ³ (Winter)	SS-7	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
B. Select erosion control method for disturbed flat areas (slope < 5%) (choose at least one)			
County Standard Lot Perimeter Protection Detail	PDS 659 ⁷ , SC-2	<input type="checkbox"/>	N/A none proposed
Will use erosion control measures from Item A on flat areas also	SS-3, 4, 7	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
County Standard Desilting Basin (must treat all site runoff)	PDS 660 ⁸ , SC-2	<input type="checkbox"/>	N/A none proposed
Mulch, straw, wood chips, soil application	SS-6, SS-8	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan

⁴ State of California Department of Transportation (Caltrans). 2003. Storm Water Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual. March. Available online at: <http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>.

⁵ If Vegetation Stabilization (Planting or Hydroseeding) is proposed for erosion control it may be installed between May 1st and August 15th. Slope irrigation is in place and needs to be operable for slopes >3 feet. Vegetation must be watered and established prior to October 1st. The owner must implement a contingency physical BMP by August 15th if vegetation establishment does not occur by that date. If landscaping is proposed, erosion control measures must also be used while landscaping is being established. Established vegetation must have a subsurface mat of intertwined mature roots with a uniform vegetative coverage of 70 percent of the natural vegetative coverage or more on all disturbed areas.

⁶ All slopes over three feet must have established vegetative cover prior to final permit approval.

⁷ County of San Diego, Planning & Development Services. 2012. Standard Lot Perimeter Protection Design System. Building Division. PDS 659. Available online at <http://www.sandiegocounty.gov/pds/docs/pds659.pdf>.

⁸ County of San Diego, Planning & Development Services. 2012. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Building Division. PDS 659. Available online at <http://www.sandiegocounty.gov/pds/docs/pds660.pdf>.

Table 1. Construction Storm Water BMP Checklist (continued)

Minimum Required Best Management Practices (BMPs)	CALTRANS SW Handbook Detail or County Std. Detail	✓ BMP Selected	Reference sheet No.'s where each selected BMP is shown on the plans. If no BMP is selected, an explanation must be provided.
C. If runoff or dewatering operation is concentrated, velocity must be controlled using an energy dissipater			
Energy Dissipater Outlet Protection ⁹	SS-10	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
D. Select sediment control method for all disturbed areas (choose at least one)			
Silt Fence	SC-1	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Fiber Rolls (Straw Wattles)	SC-5	<input type="checkbox"/>	N/A none proposed
Gravel & Sand Bags	SC-6 & 8	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Dewatering Filtration	NS-2	<input type="checkbox"/>	N/A none proposed
Storm Drain Inlet Protection	SC-10	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Engineered Desilting Basin (sized for 10-year flow)	SC-2	<input type="checkbox"/>	N/A none proposed
E. Select method for preventing offsite tracking of sediment (choose at least one)			
Stabilized Construction Entrance	TC-1	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Construction Road Stabilization	TC-2	<input type="checkbox"/>	N/A none proposed
Entrance/Exit Tire Wash	TC-3	<input type="checkbox"/>	N/A none proposed
Entrance/Exit Inspection & Cleaning Facility	TC-1	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Street Sweeping and Vacuuming	SC-7	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
F. Select the general site management BMPs			
F.1 Materials Management			
Material Delivery & Storage	WM-1	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Spill Prevention and Control	WM-4	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
F.2 Waste Management¹⁰			
Waste Management	WM-8	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Concrete Waste Management			
Solid Waste Management	WM-5	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Sanitary Waste Management	WM-9	<input checked="" type="checkbox"/>	Sheet 4 of Grading Plan
Hazardous Waste Management	WM-6	<input checked="" type="checkbox"/>	Sheet 4 of Grading Pla

Note: The Construction General Permit (Order No. 2009-0009-DWQ) also requires all projects not subject to the BMP Design Manual to comply with runoff reduction requirements through the implementation of post-construction BMPs as described in Section XIII of the order.

⁹ Regional Standard Drawing D-40 – Rip Rap Energy Dissipater is also acceptable for velocity reduction.

¹⁰ Not all projects will have every waste identified. The applicant is responsible for identifying wastes that will be onsite and applying the appropriate BMP. For example, if concrete will be used, BMP WM-8 must be selected.

Step 3: County of San Diego PDP SWQMP Site Information Checklist

Step 3.1: Description of Existing Site Condition

Project Watershed (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Otay Watershed, Dulzura Sub Area. 910.3
<p>Current Status of the Site (select all that apply):</p> <p><input type="checkbox"/> Existing development</p> <p><input type="checkbox"/> Previously graded but not built out</p> <p><input type="checkbox"/> Demolition completed without new construction</p> <p><input type="checkbox"/> Agricultural or other non-impervious use</p> <p><input checked="" type="checkbox"/> Vacant, undeveloped/natural</p> <p><i>Description / Additional Information:</i></p>	
<p>Existing Land Cover Includes (select all that apply and provide each area on site):</p> <p><input checked="" type="checkbox"/> Vegetative Cover <u>10.409</u> Acres (<u>453,413.6</u> Square Feet)</p> <p><input type="checkbox"/> Non-Vegetated Pervious Areas <u>0.000</u> Acres (<u>0.0</u> Square Feet)</p> <p><input checked="" type="checkbox"/> Impervious Areas <u>1.013</u> Acres (<u>44118</u> Square Feet)</p> <p><i>Description / Additional Information:</i></p>	
<p>Underlying Soil belongs to Hydrologic Soil Group (select all that apply):</p> <p><input type="checkbox"/> NRCS Type A</p> <p><input type="checkbox"/> NRCS Type B</p> <p><input checked="" type="checkbox"/> NRCS Type C</p> <p><input type="checkbox"/> NRCS Type D</p>	
<p>Approximate Depth to Groundwater (GW) (or N/A if no infiltration is used):</p> <p><input type="checkbox"/> GW Depth < 5 feet</p> <p><input type="checkbox"/> 5 feet < GW Depth < 10 feet</p> <p><input checked="" type="checkbox"/> 10 feet < GW Depth < 20 feet</p> <p><input type="checkbox"/> GW Depth > 20 feet</p>	
<p>Existing Natural Hydrologic Features (select all that apply):</p> <p><input checked="" type="checkbox"/> Watercourses</p> <p><input type="checkbox"/> Seeps</p> <p><input type="checkbox"/> Springs</p> <p><input type="checkbox"/> Wetlands</p> <p><input type="checkbox"/> None</p> <p><input type="checkbox"/> Other</p> <p><i>Description / Additional Information:</i></p>	

Step 3.2: Description of Existing Site Drainage Patterns

How is storm water runoff conveyed from the site? At a minimum, this description should answer:

- (1) Whether existing drainage conveyance is natural or urban;
- (2) Is runoff from offsite conveyed through the site? if yes, quantify all offsite drainage areas, design flows, and locations where offsite flows enter the project site, and summarize how such flows are conveyed through the site;
- (3) Provide details regarding existing project site drainage conveyance network, including any existing storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels; and
- (4) Identify all discharge locations from the existing project site along with a summary of conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.

Describe existing site drainage patterns:

The existing project drainage is predominantly natural with the exception of developed flow in a portion of Jamul Highlands Road. Offsite drainage enters from the north in natural channels which flow through the project and out of the project to the south. There are no existing storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, or constructed channels onsite. See the project Hydrology Study pre-construction and post-construction for complete information.

Step 3.3: Description of Proposed Site Development

Project Description / Proposed Land Use and/or Activities:

The project proposes subdivision of existing lot with one existing single family residence and paved driveway from Jamul Highlands Road for access into four (4) parcels for three (3) new single family residences in future.

List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features):

The project proposes no new impervious areas as part of subdivision. Future impervious areas are estimated as 19350 sf for roof and driveways and will be more precisely determined when new parcels are developed

List/describe proposed pervious features of the project (e.g., landscape areas):

The project proposes pervious areas consisting of portions of the existing slopes and landscaped yard areas.

Does the project include grading and changes to site topography?

☒ Yes

☐ No

Description / Additional Information:

The grading for pads and access changes topography of the site.

Insert acreage or square feet for the different land cover types in the table below:

Change in Land Cover Type Summary			
Land Cover Type	Existing (acres or ft ²)	Proposed (acres or ft ²)	Percent Change
Vegetation	453,413.6	414,674.2	-8.4%
Pervious (non-vegetated)	0.0	0.0	0.0%
Impervious	44,118	63,408	+43.7%

Step 3.4: Description of Proposed Site Drainage Patterns

Does the project include changes to site drainage (e.g., installation of new storm water conveyance systems)?

☒ Yes

☐ No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural or constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre- and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Describe proposed site drainage patterns:

The existing project pad Parcel 1 discharges to 6 locations. Two locations are at the daylight locations to the northeast and southwest of the pad. The third and fourth locations of the pad flow out along the driveway to proposed Tree Wells and into self-mitigating areas. The fifth and sixth locations flow down the driveway easterly toward Jamul Highlands Road. All six locations manage storm water for both pollution control and flow control using Tree Well designs per fact sheet SD-A and guidelines in Appendix B of the manual. Brow ditches are used sparingly to prevent comingling of natural flows into the Tree Wells.

The three new pads will drain to new tree wells, 6 for Parcel 2, 4 for Parcel 3, and 2 for Parcel 4. Small portions of proposed driveways drain to existing tree wells which are adequate for the additional impervious areas.

Step 3.5: Potential Pollutant Source Areas

Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply). Select "Other" if the project is a phased development and provide a description:

- ☒ On-site storm drain inlets
- ☐ Interior floor drains and elevator shaft sump pumps
- ☐ Interior parking garages
- ☒ Need for future indoor & structural pest control
- ☒ Landscape/Outdoor Pesticide Use
- ☐ Pools, spas, ponds, decorative fountains, and other water features
- ☐ Food service
- ☐ Refuse areas
- ☐ Industrial processes
- ☒ Outdoor storage of equipment or materials
- ☐ Vehicle and Equipment Cleaning
- ☐ Vehicle/Equipment Repair and Maintenance
- ☐ Fuel Dispensing Areas
- ☐ Loading Docks
- ☒ Fire Sprinkler Test Water
- ☐ Miscellaneous Drain or Wash Water
- ☐ Plazas, sidewalks, and parking lots
- ☐ Other (provide description)

Description / Additional Information:

Step 3.6: Identification and Narrative of Receiving Water and Pollutants of Concern

Describe flow path of storm water from the project site discharge location(s), through urban storm conveyance systems as applicable, to receiving creeks, rivers, and lagoons as applicable, and ultimate discharge to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable):

The flow path for a portion of the site is southerly out of the site and the flow path for a portion of the site is westerly out of the site. After leaving the site the storm water is then carried southwesterly in the Otay Reservoir. Per the State Water Resources Control Board website there are no ASBS receiving waters downstream of the project.

List any 303(d) impaired water bodies¹¹ within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs / WQIP Highest Priority Pollutant
Otay Reservoir (Lower)	color, iron, manganese, nitrogen, ammonia (total ammonia), pH (high);	

Identification of Project Site Pollutants*

*Identification of project site pollutants below is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs. Note the project must also participate in an alternative compliance program (unless prior lawful approval to meet earlier PDP requirements is demonstrated).

Identify pollutants expected from the project site based on all proposed use(s) of the site (see BMP Design Manual Appendix B.6):

Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Metals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organic Compounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trash & Debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oxygen Demanding Substances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

¹¹ The current list of Section 303(d) impaired water bodies can be found at http://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/#impaired

Oil & Grease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bacteria & Viruses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pesticides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Step 3.7: Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?

- ☒ Yes, hydromodification management requirements for flow control and preservation of critical coarse sediment yield areas are applicable.
- ☐ No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
- ☐ No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
- ☐ No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA¹² for the watershed in which the project resides.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

Hydromodification flow control has been achieved using Tree Wells sized to capture the first 1.64" of storm water runoff as advised by the County of San Diego Watershed Protection Program. Self-retaining areas designed to retain the first 1.64" of runoff have been determined to meet Hydromodification requirements. Refer to the BMP sizing Methodology for more information. Preservation of coarse sediment areas is not applicable.

¹² The Watershed Management Area Analysis (WMAA) is an optional element for inclusion in the Water Quality Improvement Plans (WQIPs) described in the 2013 MS4 Permit [Provision B.3.b.(4)]. It is available online at the Project Clean Water website:
http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=248

Step 3.7.1: Critical Coarse Sediment Yield Areas*

***This Section only required if hydromodification management requirements apply**

Projects must satisfy critical coarse sediment yield area (CCSYA) requirements by characterizing the project as one of the scenario-types presented below and satisfying associated criteria. Projects must appropriately satisfy all requirements for identification, avoidance, and bypass, OR may alternatively elect to demonstrate no net impact.

- ☐ **Scenario 1:** Project is subject to and in compliance with RPO requirements *(without utilization of RPO exemptions 86.604(e)(2)(cc) or 86.604(e)(3) that result in impacts to more than 15% of the project-scale CCSYAs).*
- ☐ Identify: Project has identified both onsite and upstream CCSYAs as areas that are coarse, $\geq 25\%$ slope, and $\geq 50'$ tall. *(Optional refinement methods may be performed per guidance in Section H.1.2).* AND,
 - ☐ Avoid: Project has avoided onsite CCSYAs per existing RPO steep slope encroachment criteria. AND,
 - ☐ Bypass: Project has demonstrated that both onsite and upstream CCSYAs are bypassed through or around the project site with a 2 year peak storm velocity of 3 feet per second or greater. OR,
 - ☐ No Net Impact: Project does not satisfy all Scenario 1 criteria above and must alternatively demonstrate no net impact to the receiving water.
- ☐ **Scenario 2:** Project is entirely exempt/not subject to RPO requirements without utilization of RPO exemptions 86.604(e)(2)(cc) or 86.604(e)(3).
- ☐ Identify: Project has identified upstream CCSYAs that are coarse, $\geq 25\%$ slope, and $\geq 50'$ tall. *(Optional refinement methods may be performed per guidance in Section H.1.2).* AND,
 - ☐ Avoid: Project is not required to avoid onsite CCSYAs as none were identified in the previous step. AND,
 - ☐ Bypass: Project has demonstrated that upstream CCSYAs are bypassed through or around the project site with a 2 year peak storm velocity of 3 feet per second or greater. OR,
 - ☐ No Net Impact: Project does not satisfy all Scenario 2 criteria above and must alternatively demonstrate no net impact to the receiving water. *(Skip to next row).*
- ☐ **Scenario 3:** Project utilizes exemption(s) via RPO Section 86.604(e)(2)(cc) or 86.604(e)(3) and impacts more than 15% of the project-scale CCSYAs.
- ☐ No Net Impact: Project is not eligible for traditional methods of identification, avoidance, and bypass. Project must demonstrate no net impact to the receiving water.

Critical Coarse Sediment Yield Areas Continued
Demonstrate No Net Impact
<p>If the project elects to satisfy CCSYA criteria through demonstration of no net impact to the receiving water. Applicants must identify the methods utilized from the list below and provide supporting documentation in Attachment 2c of the SWQMP. Check all that are applicable.</p> <p><input type="checkbox"/> N/A, the project appropriately identifies, avoids, and bypasses CCSYAs.</p> <p><input type="checkbox"/> Project has performed additional analysis to demonstrate that impacts to CCSYAs satisfy the no net impact standard of $Ep/Sp \leq 1.1$.</p> <p><input checked="" type="checkbox"/> Project has provided alternate mapping of CCSYAs.</p> <p><input type="checkbox"/> Project has implemented additional onsite hydromodification flow control measures.</p> <p><input type="checkbox"/> Project has implemented an offsite stream rehabilitation project to offset impacts.</p> <p><input type="checkbox"/> Project has implemented other applicant-proposed mitigation measures.</p>

Step 3.7.2: Flow Control for Post-Project Runoff*

*This Section only required if hydromodification management requirements apply
<p>List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit.</p> <p>Hydromodification flow control has been achieved using Tree Wells sized to capture the first 1.64" of storm water runoff as advised by the County of San Diego Watershed Protection Program. Self-retaining areas designed to retain the first 1.64" of runoff have been determined to meet Hydromodification requirements. Refer to the BMP sizing Methodology for more information. Preservation of coarse sediment areas is not applicable.</p>
<p>Has a geomorphic assessment been performed for the receiving channel(s)?</p> <p><input checked="" type="checkbox"/> No, the low flow threshold is 0.1Q2 (default low flow threshold)</p> <p><input type="checkbox"/> Yes, the result is the low flow threshold is 0.1Q2</p> <p><input type="checkbox"/> Yes, the result is the low flow threshold is 0.3Q2</p> <p><input type="checkbox"/> Yes, the result is the low flow threshold is 0.5Q2</p> <p><i>If a geomorphic assessment has been performed, provide title, date, and preparer:</i></p> <p><i>Discussion / Additional Information: (optional)</i></p> <p style="text-align: center;">N/A</p>

Step 3.8: Other Site Requirements and Constraints

When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.

N/A

Optional Additional Information or Continuation of Previous Sections As Needed

This space provided for additional information or continuation of information from previous sections as needed.

Step 4: Source Control BMP Checklist

Source Control BMPs			
All development projects must implement source control BMPs 4.2.1 through 4.2.6 where applicable and feasible. See Chapter 4.2 and Appendix E of the County BMP Design Manual for information to implement source control BMPs shown in this checklist.			
Answer each category below pursuant to the following:			
<ul style="list-style-type: none"> • "Yes" means the project will implement the source control BMP as described in Chapter 4.2 and/or Appendix E of the County BMP Design Manual. Discussion / justification is not required. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification must be provided. 			
Source Control Requirement	Applied?		
4.2.1 Prevention of Illicit Discharges into the MS4	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.2.1 not implemented:</i>			
4.2.2 Storm Drain Stenciling or Signage	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.2.2 not implemented:</i>			
4.2.3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.2.3 not implemented:</i>			
4.2.4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.2.4 not implemented:</i>			

Source Control Requirement	Applied?		
4.2.5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.2.5 not implemented:</i>			
4.2.6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below):			
<input type="checkbox"/> A. On-site storm drain inlets	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> B. Interior floor drains and elevator shaft sump pumps	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> C. Interior parking garages	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> D. Need for future indoor & structural pest control	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> E. Landscape/outdoor pesticide use	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> F. Pools, spas, ponds, fountains, and other water features	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> G. Food service	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> H. Refuse areas	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> I. Industrial processes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> J. Outdoor storage of equipment or materials	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> K. Vehicle and equipment cleaning	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> L. Vehicle/equipment repair and maintenance	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> M. Fuel dispensing areas	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> N. Loading docks	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> O. Fire sprinkler test water	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> P. Miscellaneous drain or wash water	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input type="checkbox"/> Q. Plazas, sidewalks, and parking lots	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<p><i>Discussion / justification if 4.2.6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for <u>all</u> "No" answers shown above.</i></p> <p>All N/A responses are Not Applicable to SFR projects</p>			

Note: Show all source control measures described above that are included in design capture volume calculations in the plan sheets of Attachment 5.

Step 5: Site Design BMP Checklist

Site Design BMPs			
All development projects must implement site design BMPs SD-A through SD-H where applicable and feasible. See Chapter 4.3 and Appendix E of the County BMP Design Manual for information to implement site design BMPs shown in this checklist.			
Answer each category below pursuant to the following:			
<ul style="list-style-type: none"> • "Yes" means the project will implement the site design BMP as described in Chapter 4.3 and/or Appendix E of the County BMP Design Manual. Discussion / justification is not required. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification must be provided. 			
Site Design Requirement	Applied?		
4.3.1 Maintain Natural Drainage Pathways and Hydrologic Features	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.3.1 not implemented:</i>			
4.3.2 Conserve Natural Areas, Soils, and Vegetation	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.3.2 not implemented:</i>			
4.3.3 Minimize Impervious Area	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.3.3 not implemented:</i>			
4.3.4 Minimize Soil Compaction	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.3.4 not implemented:</i>			
4.3.5 Impervious Area Dispersion	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.3.5 not implemented:</i>			

Site Design Requirement	Applied?		
4.3.6 Runoff Collection	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.3.6 not implemented:</i> Project Site is large with little need for runoff collection			
4.3.7 Landscaping with Native or Drought Tolerant Species	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<i>Discussion / justification if 4.3.7 not implemented:</i> 			
4.3.8 Harvesting and Using Precipitation	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<i>Discussion / justification if 4.3.8 not implemented:</i> Determined to be Not Applicable based on results of Worksheet B.3-1			

Note: Show all site design measures described above that are included in design capture volume calculations in the plan sheets of Attachment 5.

Step 6: PDP Structural BMPs

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the County at the completion of construction. This may include requiring the project owner or project owner's representative and engineer of record to certify construction of the structural BMPs (see Section 1.12 of the BMP Design Manual). PDP structural BMPs must be maintained into perpetuity, and the County must confirm the maintenance (see Section 7 of the BMP Design Manual).

Use this section to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (Step 6.2) for each structural BMP within the project (copy the BMP summary information sheet [Step 6.2] as many times as needed to provide summary information for each individual structural BMP).

Step 6.1: Description of structural BMP strategy

Describe the general strategy for structural BMP implementation at the site. This information must describe how the steps for selecting and designing storm water pollutant control BMPs presented in Section 5.1 of the BMP Design Manual were followed, and the results (type of BMPs selected). For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate. At the end of this discussion provide a summary of all the structural BMPs within the project including the type and number.

Structural BMPs are not required and have not been implemented on this project.

The existing project pad Parcel 1 discharges to 6 locations. Two locations are at the daylight locations to the northeast and southwest of the pad. The third and fourth locations of the pad flow out along the driveway to proposed Tree Wells and into self-mitigating areas. The fifth and sixth locations flow down the driveway easterly toward Jamul Highlands Road. All six locations manage storm water for both pollution control and flow control using Tree Well designs per fact sheet SD-A and guidelines in Appendix B of the manual. Brow ditches are used sparingly to prevent comingling of natural flows into the Tree Wells.

The three new pads will drain to new tree wells, 6 for Parcel 2, 4 for Parcel 3, and 2 for Parcel 4. Small portions of proposed driveways drain to existing tree wells which are adequate for the additional impervious areas.

Hydromodification flow control has been achieved using Tree Wells sized to capture the first 1.64" of storm water runoff as advised by the County of San Diego Watershed Protection Program. Self-retaining areas designed to retain the first 1.64" of runoff have been determined to meet Hydromodification requirements. Refer to the BMP sizing Methodology for more information. http://www.projectcleanwater.org/images/stories/Docs/LDS/SUSMP/SUSMP_SDBMP_Sizing_Calculator_Rpt_Jan2012.pdf

(Continue on following page as necessary.)

Description of structural BMP strategy continued
(Page reserved for continuation of description of general strategy for structural BMP implementation at the site)

(Continued from previous page)

Step 6.2: Structural BMP Checklist

(Copy this page as needed to provide information for each individual proposed structural BMP)	
Structural BMP ID No.	
Construction Plan Sheet No.	
Type of structural BMP: <input type="checkbox"/> Retention by harvest and use (HU-1) <input type="checkbox"/> Retention by infiltration basin (INF-1) <input type="checkbox"/> Retention by bioretention (INF-2) <input type="checkbox"/> Retention by permeable pavement (INF-3) <input type="checkbox"/> Partial retention by biofiltration with partial retention (PR-1) <input type="checkbox"/> Biofiltration (BF-1) <input type="checkbox"/> Biofiltration with Nutrient Sensitive Media Design (BF-2) <input type="checkbox"/> Proprietary Biofiltration (BF-3) meeting all requirements of Appendix F <input type="checkbox"/> Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide BMP type/description in discussion section below) <input type="checkbox"/> Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below) <input type="checkbox"/> Flow-thru treatment control with alternative compliance (provide BMP type/description in discussion section below) <input type="checkbox"/> Detention pond or vault for hydromodification management <input type="checkbox"/> Other (describe in discussion section below)	
Purpose: <input type="checkbox"/> Pollutant control only <input type="checkbox"/> Hydromodification control only <input type="checkbox"/> Combined pollutant control and hydromodification control <input type="checkbox"/> Pre-treatment/forebay for another structural BMP <input type="checkbox"/> Other (describe in discussion section below)	
Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification forms (See Section 1.12 of the BMP Design Manual)	
Who will be the final owner of this BMP?	<input type="checkbox"/> HOA <input type="checkbox"/> Property Owner <input type="checkbox"/> County <input type="checkbox"/> Other (describe)
Who will maintain this BMP into perpetuity?	<input type="checkbox"/> HOA <input type="checkbox"/> Property Owner <input type="checkbox"/> County <input type="checkbox"/> Other (describe)
What Category (1-4) is the Structural BMP? Refer to the Category definitions in Section 7.3 of the BMP DM. Attach the appropriate maintenance agreement in Attachment 3.	

Discussion (as needed):

(Continue on subsequent pages as necessary)

Step 6.3: Offsite Alternative Compliance Participation Form

PDP INFORMATION	
Record ID:	
Assessor's Parcel Number(s) [APN(s)]	
What are your PDP Pollutant Control Debits? *See Attachment 1 of the PDP SWQMP	
What are your PDP HMP Debits? (if applicable) *See Attachment 2 of the PDP SWQMP	
ACP Information	
Record ID:	
Assessor's Parcel Number(s) [APN(s)]	
Project Owner/Address	
What are your ACP Pollutant Control Credits? *See Attachment 1 of the ACP SWQMP	
What are your ACP HMP Debits? (if applicable) *See Attachment 2 of the ACP SWQMP	
Is your ACP in the same watershed as your PDP? <input type="checkbox"/> Yes <input type="checkbox"/> No	Will your ACP project be completed prior to the completion of the PDP? <input type="checkbox"/> Yes <input type="checkbox"/> No
Does your ACP account for all Deficits generated by the PDP? <input type="checkbox"/> Yes <input type="checkbox"/> No (PDP and/or ACP must be redesigned to account for all deficits generated by the PDP.	What is the difference between your PDP debits and ACP Credits? *(ACP Credits -Total PDP Debits = Total Earned Credits)

ATTACHMENT 1

BACKUP FOR PDP POLLUTANT CONTROL BMPs

This is the cover sheet for Attachment 1.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 1a	Storm Water Pollutant Control Worksheet Calculations -Worksheet B.3-1 (Required) -Worksheet B.1-1 (Required) -Worksheet B.4-1 (if applicable) -Worksheet B.4-2 (if applicable) -Worksheet B.5-1 (if applicable) -Worksheet B.5-2 (if applicable) -Worksheet B.5-3 (if applicable) -Worksheet B.6-1 (if applicable) -Summary Worksheet (optional)	<input checked="" type="checkbox"/> Included
Attachment 1b	Form I-8, Categorization of Infiltration Feasibility Condition (Required unless the project will use harvest and use BMPs) Refer to Appendices C and D of the BMP Design Manual to complete Form I-8.	<input type="checkbox"/> Included <input type="checkbox"/> Not included because the entire project will use harvest and use BMPs NOT APPLICABLE for TREE WELLS
Attachment 1c	DMA Exhibit (Required) See DMA Exhibit Checklist on the back of this Attachment cover sheet.	<input checked="" type="checkbox"/> Included
Attachment 1d	Individual Structural BMP DMA Mapbook (Required) -Place each map on 8.5"x11" paper. -Show at a minimum the DMA, Structural BMP, and any existing hydrologic features within the DMA.	<input type="checkbox"/> Included NOT APPLICABLE for TREE WELLS

Use this checklist to ensure the required information has been included on the DMA Exhibit:

The DMA Exhibit must identify:

- ☒ Underlying hydrologic soil group
- ☒ Approximate depth to groundwater
- ☒ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- ☒ Critical coarse sediment yield areas to be protected
- ☒ Existing topography and impervious areas
- ☒ Existing and proposed site drainage network and connections to drainage offsite
- ☒ Proposed demolition
- ☒ Proposed grading
- ☒ Proposed impervious features
- ☒ Proposed design features and surface treatments used to minimize imperviousness
- ☒ Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)
- ☒ Potential pollutant source areas and corresponding required source controls (see Chapter 4, Appendix E.1, and Step 3.5)
- ☒ Structural BMPs (identify location, structural BMP ID#, type of BMP, and size/detail)

Automated Worksheet B.3-1: Project-Scale BMP Feasibility Analysis (V1.1)

Category	#	Description	Value	Units
Capture & Use Inputs	0	Design Capture Volume for Entire Project Site	6,274	cubic-feet
	1	Proposed Development Type	residential	unitless
	2	Number of Residents or Employees at Proposed Development	4	#
	3	Total Planted Area within Development	87,318	sq-ft
Infiltration Inputs	4	Water Use Category for Proposed Planted Areas	moderate	unitless
	5	Is Average Site Infiltration Rate Less than 0.5 Inches per Hour?	no	yes/no
	6	Is Retention of the Full DCV Anticipated to Produce Negative Impacts?	no	yes/no
	7	Is Retention of Any Volume Anticipated to Produce Negative Impacts?	no	yes/no
Calculations	8	36-Hour Toilet Use Per Resident or Employee	0.37	cubic-feet
	9	Subtotal: Anticipated 36 Hour Toilet Use	1	cubic-feet
	10	Anticipated 1 Acre Landscape Use Over 36 Hours	196.52	cubic-feet
	11	Subtotal: Anticipated Landscape Use Over 36 Hours	394	cubic-feet
	12	Total Anticipated Use Over 36 Hours	395	cubic-feet
	13	Total Anticipated Use / Design Capture Volume	0.06	cubic-feet
	14	Are Full Capture and Use Techniques Feasible for this Project?	No	unitless
	15	Is Full Retention Feasible for this Project?	Yes	yes/no
Result	16	Is Partial Retention Feasible for this Project?	Yes	yes/no
	17	Feasibility Category	3	1, 2, 3, 4, 5

Worksheet B.3-1 General Notes:

A. Applicants may use this optional worksheet to gauge the feasibility of implementing capture and use techniques on their project site. User input should be provided for yellow shaded cells, values for all other cells will be automatically generated. Projects demonstrating feasibility or potential feasibility via this worksheet are encouraged to incorporate capture and use features in their project.

Automated Worksheet B.1-1: Calculation of Design Capture Volume (V1.1)

Category	#	Description	i	B	C	D	E	F	G	H	I	J	Units
Standard Drainage Basin Inputs	0	Drainage Basin ID or Name	A	B	C	D	E	F	G	H	I	J	Units
	1	Basin Drains to the Following BMP Type	SD-A	SD-A	SD-A	SD-A	SD-A	SD-A	SD-A	SD-A	SD-A	SD-A	unless
	2	85th Percentile 24-hr Storm Depth	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	inches
	3	Impervious Surfaces Not Directed to Dispersion Area ($C_1=0.90$)	3,864	1,148	11,991	11,133	6,619	6,758	9,000	6,000	3,600	3,600	sq-ft
	4	Semi-Pervious Surfaces Not Serving as Dispersion Area ($C_1=0.30$)	0	0	0	0	0	0	0	0	0	0	sq-ft
	5	Engineered Pervious Surfaces Not Serving as Dispersion Area ($C_1=0.10$)	9,323	3,325	22,666	14,818	5,195	3,961	20,893	3,794	3,343	3,343	sq-ft
	6	Natural Type A Soil Not Serving as Dispersion Area ($C_1=0.10$)											sq-ft
	7	Natural Type B Soil Not Serving as Dispersion Area ($C_1=0.14$)	0	0	0	0	0	0	0	0	0	0	sq-ft
	8	Natural Type C Soil Not Serving as Dispersion Area ($C_1=0.23$)											sq-ft
	9	Natural Type D Soil Not Serving as Dispersion Area ($C_1=0.30$)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	yes/no
Dispersion, Tree Well, & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?											sq-ft
	11	Impervious Surfaces Directed to Dispersion Area per SD-B ($C_1=0.90$)											sq-ft
	12	Semi-Pervious Surfaces Serving as Dispersion Area per SD-B ($C_1=0.30$)											sq-ft
	13	Engineered Pervious Surfaces Serving as Dispersion Area per SD-B ($C_1=0.10$)											sq-ft
	14	Natural Type A Soil Serving as Dispersion Area per SD-B ($C_1=0.10$)											sq-ft
	15	Natural Type B Soil Serving as Dispersion Area per SD-B ($C_1=0.14$)											sq-ft
	16	Natural Type C Soil Serving as Dispersion Area per SD-B ($C_1=0.23$)											sq-ft
	17	Natural Type D Soil Serving as Dispersion Area per SD-B ($C_1=0.30$)											sq-ft
	18	Number of Tree Wells Proposed per SD-A	4	2	10	9	5	5	6	4	2	2	#
	19	Average Mature Tree Canopy Diameter	20	20	20	20	20	20	20	20	20	20	ft
Final/Adjusted Runoff Factor Calculations	20	Number of Rain Barrels Proposed per SD-1											#
	21	Average Rain Barrel Size											gal
	22	Total Area Tributary to BMP	13,187	4,473	34,657	25,951	11,814	10,719	20,893	9,794	6,943	6,943	sq-ft
	23	Composite Runoff Factor for Standard Drainage Areas	0.33	0.31	0.38	0.44	0.55	0.60	0.34	0.59	0.51	0.51	unless
	24	Initial Composite Runoff Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	unless
	25	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	26	Total Pervious Dispersion Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	27	Dispersed Impervious Area / Pervious Dispersion Area	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ratio
	28	Adjustment Factor for Dispersed & Dispersion Areas	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	ratio
	29	Final Adjusted Tributary Runoff Factor	0.33	0.31	0.38	0.44	0.55	0.60	0.34	0.59	0.51	0.51	unless
Volume Reduction Calculations	30	Final Effective Tributary Area	4,352	1,387	13,170	11,418	6,498	6,431	10,164	5,778	3,541	3,541	sq-ft
	31	Initial Design Capture Volume	435	139	1,317	1,142	650	643	1,016	578	354	354	cubic-feet
	32	Volume Reduction per Tree Well	180	180	180	180	180	180	180	180	180	180	cubic-feet
	33	Total Tree Well Volume Reduction	720	360	1,800	1,620	900	900	1,080	720	360	360	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	35	Design Capture Volume Tributary to BMP	0	0	0	0	0	0	0	0	0	0	cubic-feet

Worksheet B.1-1 General Notes:

- A. Applicants may use this worksheet to calculate design capture volumes for up to 10 drainage areas. User input must be provided for yellow shaded cells, values for all other cells will be automatically generated, errors/nonifications will be highlighted in red and summarized below. Upon completion of this worksheet, proceed to the appropriate BMP Sizing worksheet(s).
- B. Impervious surfaces include roofs, concrete, asphalt, or pervious pavements with an impervious liner. Semi-pervious surfaces include decomposed granite, cobbles, crushed aggregate, or compacted soils such as unpaved parking. Engineered pervious surfaces include pervious pavements providing full retention of the 85th percentile rainfall depth, or areas with soils that have been amended and mulched per Section 86.709 of the Landscape Ordinance. Dispersion areas are pervious or semi-pervious surfaces that receive runoff from impervious surfaces ($C_1=0.90$) and reduce stormwater runoff as outlined in Fact Sheet SD-B.

Attachment 1b

Categorization of Infiltration Feasibility Condition		Form I-8	
<u>Part 1 - Full Infiltration Feasibility Screening Criteria</u>			
Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
1	Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	X	
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.2.	X	
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

Appendix I: Forms and Checklists

Form I-8 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result *	<p>If all answers to rows 1 - 4 are “Yes” a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration</p> <p>If any answer from row 1-4 is “No”, infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a “full infiltration” design. Proceed to Part 2</p>		

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

Form I-8 Page 3 of 4

Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria

Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?

Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	✗	

Provide basis:

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.2.	×	
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Provide basis:

Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.

Form I-8 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
8	Can infiltration be allowed without violating downstream water rights? The response to this Screening Question must be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
Part 2 Result*	If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration . If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration .		Feasible Feasible

*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by Agency/Jurisdictions to substantiate findings

- NOTES:
1. THE UNDERLYING HYDROLOGIC SOIL GROUP IS GROUP C.
 2. THE APPROXIMATE DEPTH OF GROUNDWATER IS GREATER THAN 10 FEET TO BE VERIFIED DURING GRADING.
 3. THERE ARE NO EXISTING NATURAL HYDROLOGIC FEATURES ON THIS SITE.
 4. THERE IS A SMALL CRITICAL COURSE SEDIMENT YIELD AREAS AT THE SOUTHEAST CORNER OF THE PROJECT AWAY FROM WORK AND NOT REQUIRED TO BE PROTECTED ON THIS SITE.
 5. EXISTING TOPOGRAPHY AND IMPERVIOUS AREAS SHOWN HEREON.
 6. THERE ARE NO EXISTING OR PROPOSED SITE DRAINAGE CONNECTIONS TO DRAINAGE OFFSITE.
 7. PROPOSED GRADING SHOWN HEREON.
 8. PROPOSED IMPERVIOUS FEATURES SHOWN HEREON.
 9. PROPOSED DESIGNED FEATURES SHOWN HEREON.
 10. DRAINAGE MANAGEMENT AREA (DMA) BOUNDARIES, DMA ID NUMBERS, DMA AREAS AND DMA TYPE.
 11. NO STRUCTURAL BMPs ARE PROPOSED. TREATMENT AND DETENTION PROVIDED BY BIORETENTION BASINS.

NOTES REGARDING SELF-MITIGATING AREAS

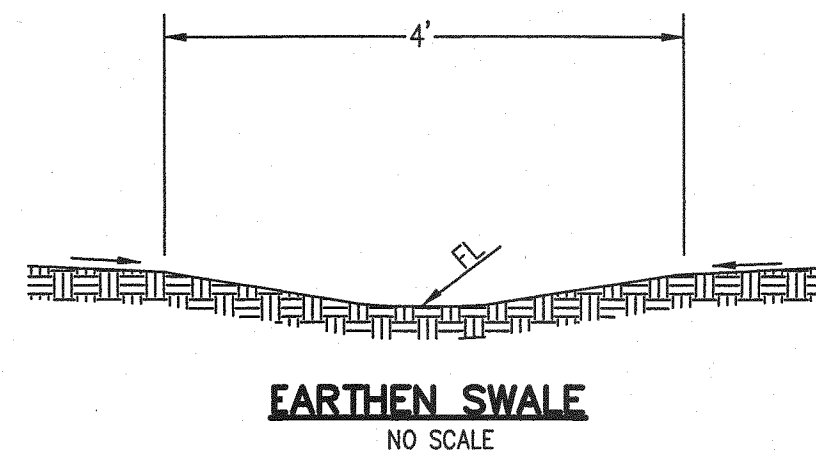
VEGETATION IN THE NATURAL OR LANDSCAPED AREA IS NATIVE AND/OR NON-NATIVE/NON INVASIVE DROUGHT TOLERANT SPECIES THAT DO NOT REQUIRE REGULAR APPLICATION OF FERTILIZERS OR PESTICIDES.

SOILS ARE UNDISTURBED NATIVE TOPSOIL, OR DISTURBED SOILS THAT HAVE BEEN AMENDED PER SD-F.

THE INCIDENTAL IMPERVIOUS AREAS ARE LESS THAN 5 PERCENT OF THE SELF-MITIGATING AREA.

IMPERVIOUS AREA WITHIN THE SELF-MITIGATED AREA SHOULD NOT BE HYDRAULICALLY CONNECTED TO OTHER IMPERVIOUS AREAS UNLESS IT IS A STORM WATER CONVEYANCE SYSTEM (SUCH AS A BROW DITCH).

THE SELF-MITIGATING AREA IS HYDRAULICALLY SEPARATE FROM DMAS THAT CONTAIN PERMANENT STORM WATER POLLUTANT CONTROL BMPs.



SWMP NO. _____

PARTY RESPONSIBLE FOR MAINTENANCE:

NAME WILLIAM ROETZHEIM
ADDRESS 13518 JAMUL DRIVE CONTACT WILLIAM ROETZHEIM
JAMUL, CA 91935
PHONE NO. (619) 917-4917

PLAN PREPARED BY:

NAME LAWRENCE E. COLE SIGNATURE _____
COMPANY LANDMARK ENGINEERING CORP.
ADDRESS 3443 CAMINO DEL RIO SOUTH
SUITE #204
SAN DIEGO, CA 92108
PHONE NO. (619) 260-0420

DRAINAGE MANAGEMENT AREA (DMA) PLAN

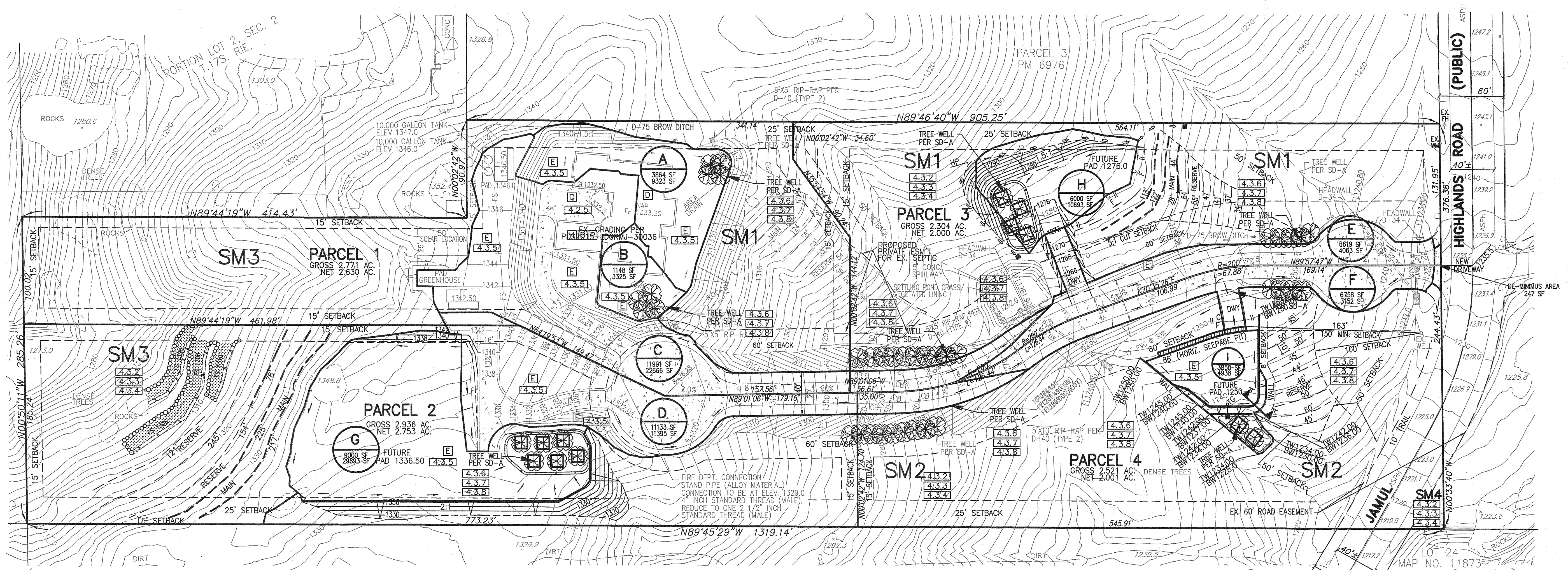
ROETZHEIM RESIDENCE

ABBREVIATIONS:

TOP OF WALL TW
FINISH GRADE FG
FINISH FLOOR FF
GARAGE FLOOR GF
TOP OF GRATE TG
FLOW LINE FL
FINISH SURFACE FS
CATCH BASIN CB

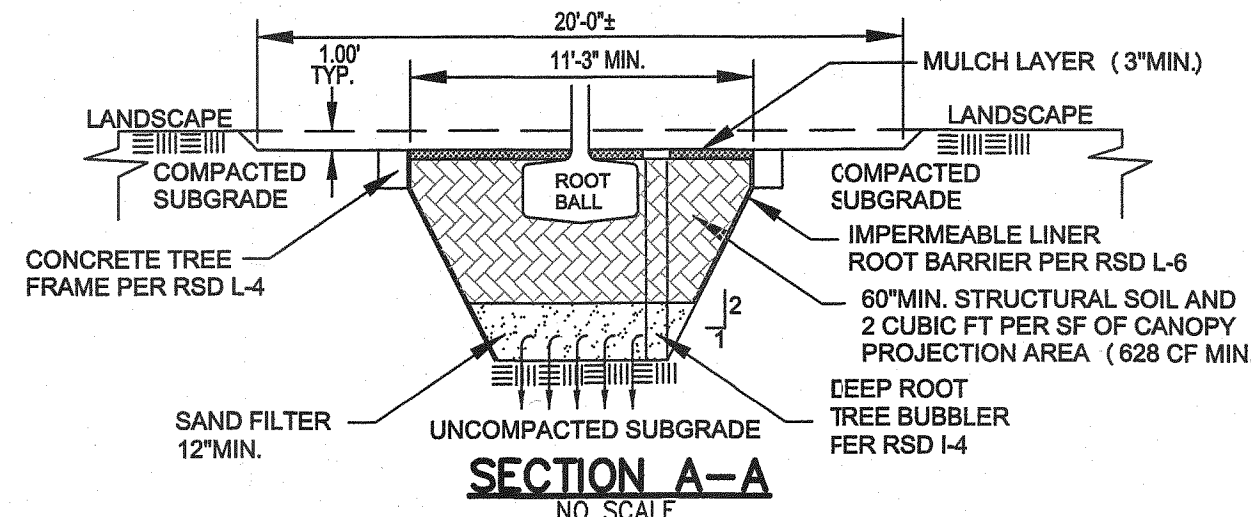
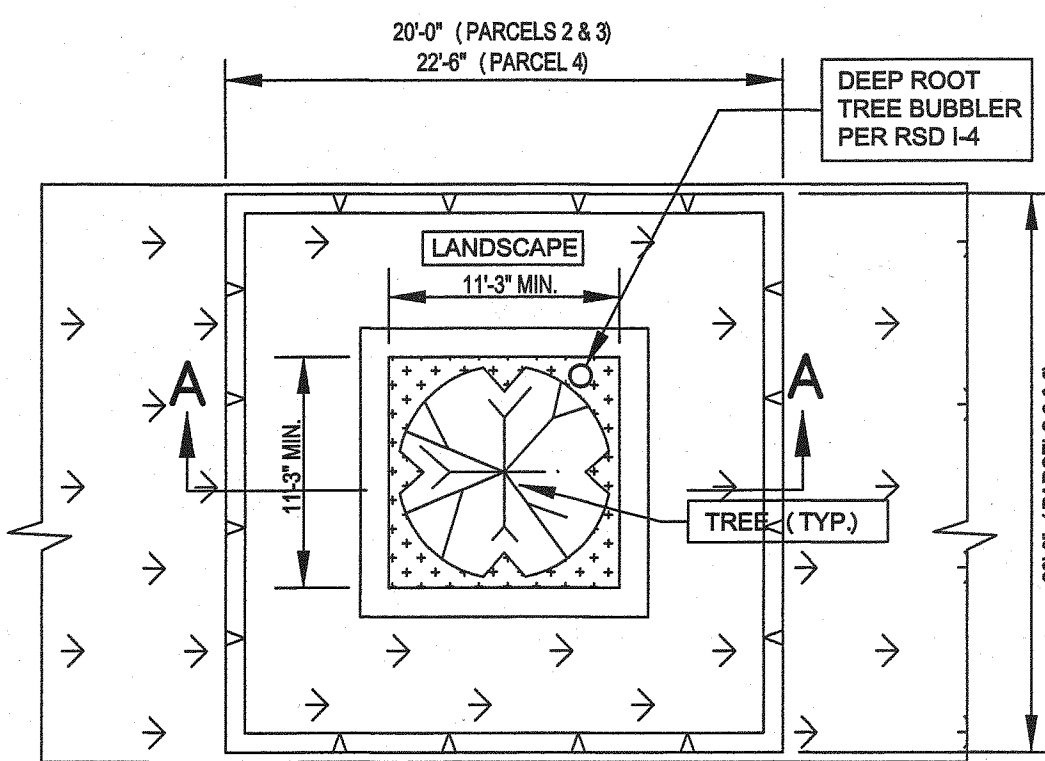
POST-CONSTRUCTION SOURCE CONTROL BMPs

- 4.2.1 PREVENTION OF ILLICIT DISCHARGES INTO THE MS4.
4.2.5 PROTECT TRASH STORAGE AREAS.
4.2.6 ADDITIONAL BMPs BASED ON POTENTIAL RUNOFF POLLUTANTS.
- D NEED FOR FUTURE INDOOR & STR. PEST CONTROL
E LANDSCAPE/OUTDOOR PESTICIDE USE
H TRASH OR REFUSE AREAS
P FIRE SPRINKLER TEST WATER
M MISCELLANEOUS DRAIN OR WASH WATER
O PLAZAS, SIDEWALKS, DRIVEWAYS, AND PARKING LOTS



TREE WELL SUMMARY

DMA	NO. OF TREE WELLS	MATURE TREE CANOPY	
A	4	20'	EX.
B	2	20'	EX.
C	10	20'	EX.
D	9	20'	EX.
E	5	20'	EX.
F	5	20'	EX.
G	6	20'	EX.
H	4	20'	EX.
I	2	20'	EX.



SELF MITIGATING DMAs

SM1 - 104,343.975 SF
SM2 - 120,401.269 SF
SM3 - 90,547.464 SF

RECORD PLAN

BY: LAWRENCE E. COLE DATE: _____
RCE 36292
EXPIRES 6/30/16

COUNTY APPROVED CHANGES

NO.	DESCRIPTION	APPROVED BY	DATE
1			

BENCH MARK

DESCRIPTION: 172ECCS3 PER COUNTY CONTROL DATA SHEET
2" BRASS DISC MARKED 172ECC83
LOCATION: IN THE CUL-DE-SAC AT THE OF OLE BURN WAY
RECORD FROM: COUNTY CONTROL DATA SHEET
ELEVATION: 1655.69 DATUM: NAVD88

LANDMARK ENGINEERING CORPORATION
3443 Camino Del Rio South
Suite 204
San Diego, CA 92108
(619) 260-0420



PRIVATE CONTRACT

SHEET 1	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	1 SHEETS
DRAINAGE MANAGEMENT AREA (DMA) EXHIBIT: ROETZHEIM RESIDENCE		
CALIFORNIA COORDINATE INDEX 202-1815		
Approved For: <u>SIRIUS DEYLANIAN</u> COUNTY ENGINEER	Engineer of work: <u>LAWRENCE E. COLE</u> R.C.E. 36292	
By: _____	Grading Permit No. _____	
Date _____		

FILE NO. 2393

LANDMARK ENGINEERING CORPORATION
(619) 260-0420

ATTACHMENT 2

BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES

This is the cover sheet for Attachment 2.

☒ Mark this box if this attachment is empty because the project is exempt from PDP hydromodification management requirements.

Indicate which Items are Included behind this cover sheet:

Attachment Sequence	Contents	Checklist
Attachment 2a	Flow Control Facility Design, including Structural BMP Drawdown Calculations and Overflow Design Summary (Required) See Chapter 6 and Appendix G of the BMP Design Manual	<input type="checkbox"/> Included <input type="checkbox"/> Submitted as separate stand-alone document
Attachment 2b	Hydromodification Management Exhibit (Required)	<input type="checkbox"/> Included See Hydromodification Management Exhibit Checklist on the back of this Attachment cover sheet.
Attachment 2c	Management of Critical Coarse Sediment Yield Areas See Section 6.2 and Appendix H of the BMP Design Manual.	<input checked="" type="checkbox"/> Exhibit depicting onsite and/or upstream sources of critical coarse sediment as mapped by Regional or Jurisdictional approaches outlined in Appendix H.1 AND, <input type="checkbox"/> Demonstration that the project effectively avoids and bypasses sources of mapped critical coarse sediment per approaches outlined in Appendix H.2 and H.3. OR, <input type="checkbox"/> Demonstration that project does not generate a net impact on the receiving water per approaches outlined in Appendix H.4.
Attachment 2d	Geomorphic Assessment of Receiving Channels (Optional) See Section 6.3.4 of the BMP Design Manual.	<input type="checkbox"/> Not performed <input type="checkbox"/> Included <input type="checkbox"/> Submitted as separate stand-alone document
Attachment 2e	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	<input type="checkbox"/> Included <input type="checkbox"/> Not required because BMPs will drain in less than 96 hours

Use this checklist to ensure the required information has been included on the Hydromodification Management Exhibit:

The Hydromodification Management Exhibit must identify:

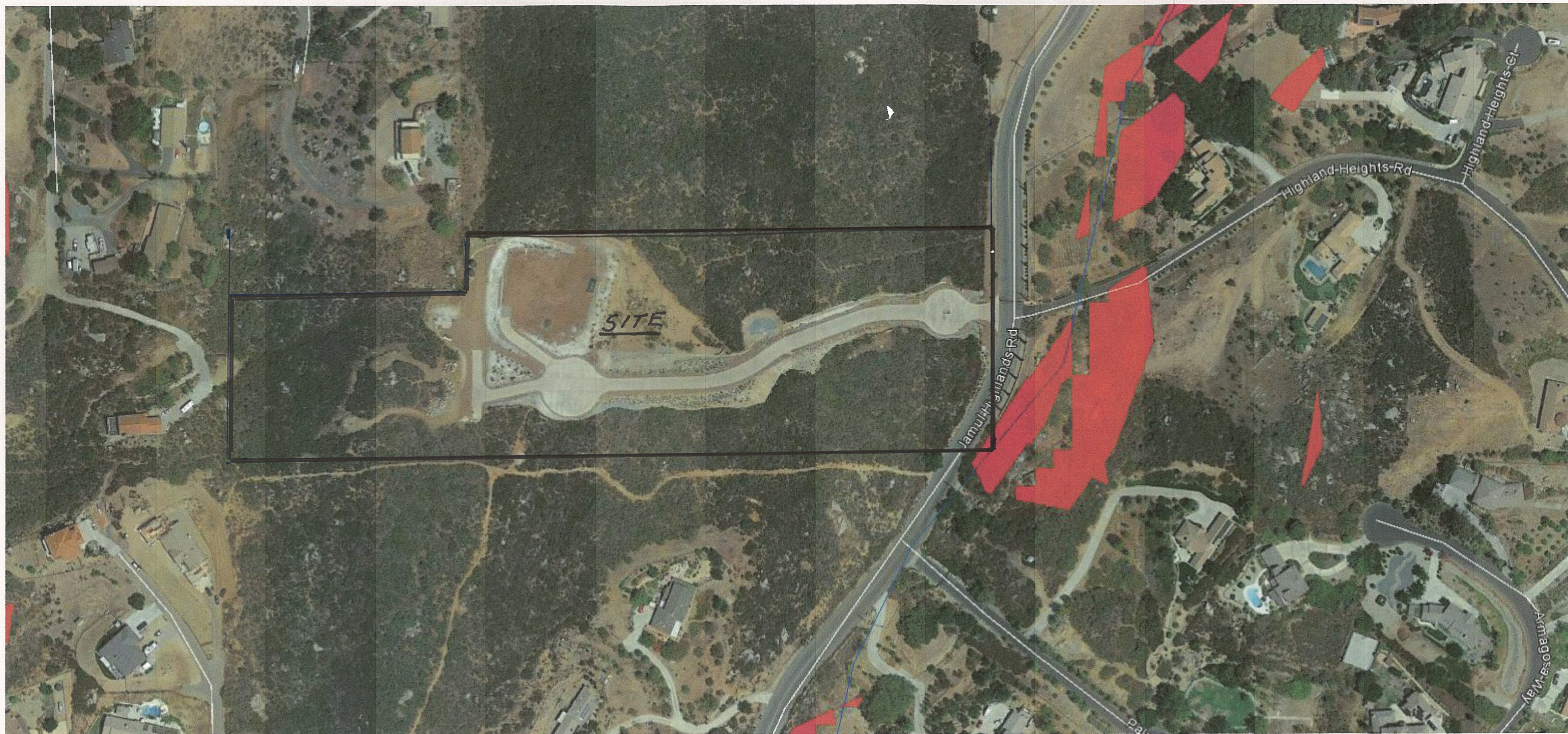
NOT APPLICABLE

- ☐ Underlying hydrologic soil group
- ☐ Approximate depth to groundwater
- ☐ Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- ☐ Critical coarse sediment yield areas to be protected
- ☐ Existing topography
- ☐ Existing and proposed site drainage network and connections to drainage offsite
- ☐ Proposed grading
- ☐ Proposed impervious features
- ☐ Proposed design features and surface treatments used to minimize imperviousness
- ☐ Point(s) of Compliance (POC) for Hydromodification Management
- ☐ Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
- ☐ Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail)

ATTACHMENT 2

NOTE

There is a small area of Critical Coarse Sediment Yield Area at the southeast corner of the project site. It is downstream and there are no improvement proposed in this area.



CCSYA EXHIBIT

ATTACHMENT 3

Structural BMP Maintenance Information

This is the cover sheet for Attachment 3.

Indicate which Items are Included behind this cover sheet:

NOT APPLICABLE

Attachment Sequence	Contents	Checklist
Attachment 3a	Structural BMP Maintenance Plan (Required)	<input type="checkbox"/> Included See Structural BMP Maintenance Information Checklist on the back of this Attachment cover sheet.
Attachment 3b	Draft Stormwater Maintenance Notification / Agreement (when applicable)	<input type="checkbox"/> Included <input checked="" type="checkbox"/> Not Applicable

Use this checklist to ensure the required information has been included in the Structural BMP Maintenance Information Attachment:

Attachment 3a must identify: NOT APPLICABLE

- ☐ Specific maintenance indicators and actions for proposed structural BMP(s). This must be based on Section 7.7 of the BMP Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)
- ☐ How to access the structural BMP(s) to inspect and perform maintenance
- ☐ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- ☐ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- ☐ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- ☐ Recommended equipment to perform maintenance
- ☐ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management

Attachment 3b: For all Structural BMPs, Attachment 3b must include a draft maintenance agreement in the County's standard format depending on the Category (PDP applicant to contact County staff to obtain the current maintenance agreement forms). Refer to Section 7.3 in the BMP Design Manual for a description of the different categories.

ATTACHMENT 4

**County of San Diego PDP Structural BMP Verification for
Permitted Land Development Projects**

NOT APPLICABLE

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County of San Diego BMP Design Manual Verification Form	
Project Summary Information	
Project Name	
Record ID (e.g., grading/improvement plan number)	
Project Address	
Assessor's Parcel Number(s) (APN(s))	
Project Watershed (Complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	
Responsible Party for Construction Phase	
Developer's Name	
Address	
Email Address	
Phone Number	
Engineer of Work	
Engineer's Phone Number	
Responsible Party for Ongoing Maintenance	
Owner's Name(s)*	
Address	
Email Address	
Phone Number	
*Note: If a corporation or LLC, provide information for principal partner or Agent for Service of Process. If an HOA, provide information for the Board or property manager at time of project closeout.	

*All Priority Development Projects (PDPs) require a Structural BMP

Note: If this is a partial verification of Structural BMPs, provide a list and map denoting Structural BMPs that have already been submitted, those for this submission, and those anticipated in future submissions.

Checklist for Applicant to submit to PDCI:

- ☒ Copy of the final accepted SWQMP and any accepted addendum.
- ☒ Copy of the most current plan showing the Stormwater Structural BMP Table, plans/cross-section sheets of the Structural BMPs and the location of each verified as-built Structural BMP.
- ☒ Photograph of each Structural BMP.
- ☒ Photograph(s) of each Structural BMP during the construction process to illustrate proper construction.
- ☒ Copy of the approved Structural BMP maintenance agreement and associated security

By signing below, I certify that the Structural BMP(s) for this project have been constructed and all BMPs are in substantial conformance with the approved plans and applicable regulations. I understand the County reserves the right to inspect the above BMPs to verify compliance with the approved plans and Watershed Protection Ordinance (WPO). Should it be determined that the BMPs were not constructed to plan or code, corrective actions may be necessary before permits can be closed.

Please sign your name and seal.

Professional Engineer's Printed Name:

Lawrence E. Cole / Landmark Engineering Corporation

Professional Engineer's Signed Name:

Date: _____

[SEAL]

ATTACHMENT 5**Copy of Plan Sheets Showing Permanent Storm Water BMPs,
Source Control, and Site Design**

TREE WELLS ONLY NOT APPLICABLE

This is the cover sheet for Attachment 5.

Use this checklist to ensure the required information has been included on the plans:**The plans must identify:**

- ☒ Structural BMP(s) with ID numbers matching Step 6 Summary of PDP Structural BMPs
- ☒ The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
- ☒ Details and specifications for construction of structural BMP(s)
- ☒ Signage indicating the location and boundary of structural BMP(s) as required by County staff
- ☒ How to access the structural BMP(s) to inspect and perform maintenance
- ☒ Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- ☒ Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- ☒ Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- ☒ Recommended equipment to perform maintenance
- ☒ When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
- ☒ Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
- ☒ All BMPs must be fully dimensioned on the plans
- ☒ When proprietary BMPs are used, site-specific cross section with outflow, inflow, and model number must be provided. Photocopies of general brochures are not acceptable.
- ☒ Include all source control and site design measures described in Steps 4 and 5 of the SWQMP. Can be included as a separate exhibit as necessary.

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ATTACHMENT 6

Copy of Project's Drainage Report

This is the cover sheet for Attachment 6.

If hardcopy or CD is not attached, the following information should be provided:

Title: Hydrology & Hydraulics Study, Jamul Highland Road, Jamul, California

Prepared By: Lawrence E. Cole Landmark Engineering Corporation

Date: January 14, 2019

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ATTACHMENT 7

Copy of Project's Geotechnical and Groundwater Investigation Report

This is the cover sheet for Attachment 7.

NOT APPLICABLE

If hardcopy or CD is not attached, the following information should be provided:

Title:

Prepared By:

Date:

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